

FIG. 1

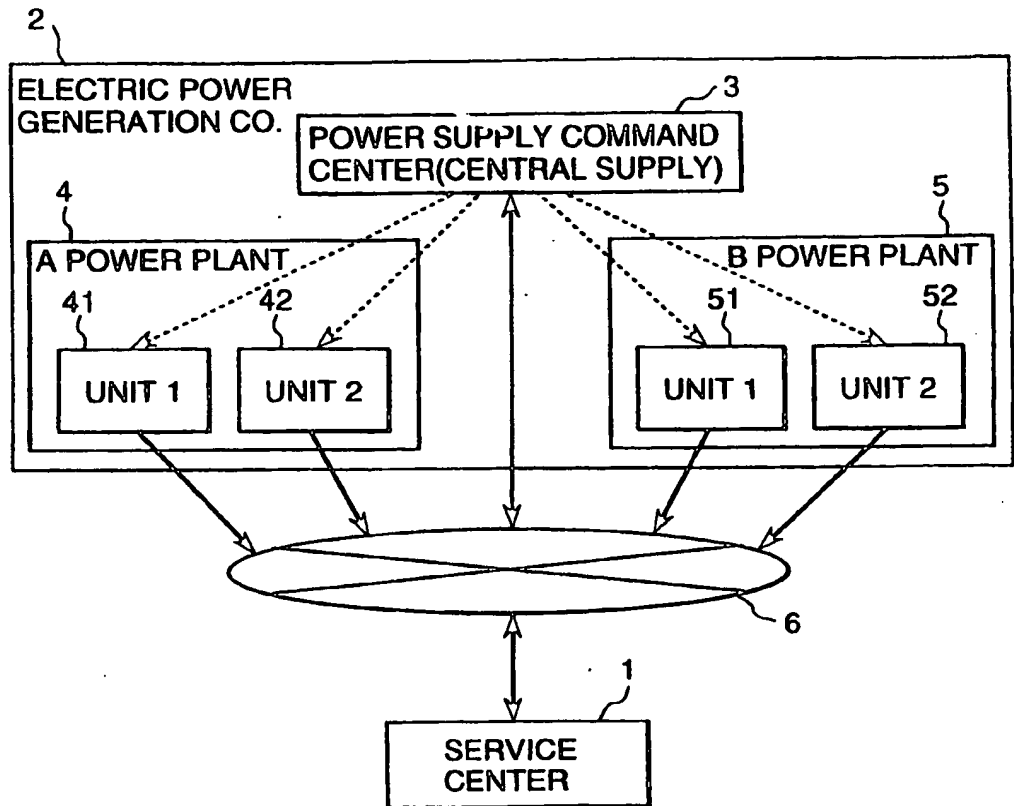


FIG. 2

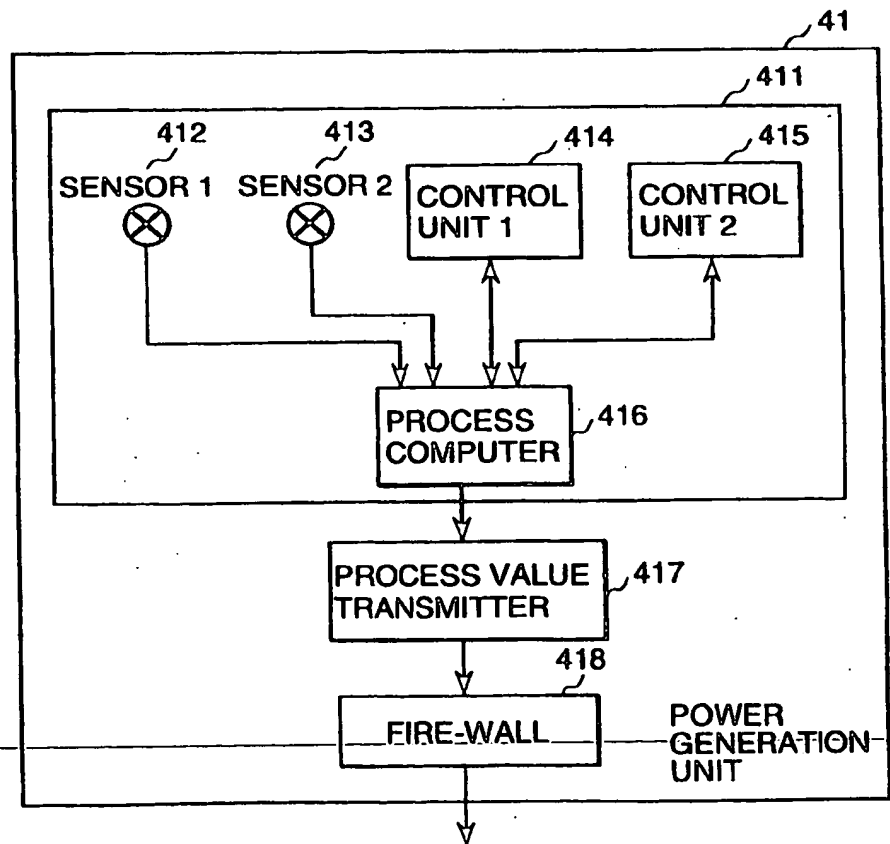


FIG. 3

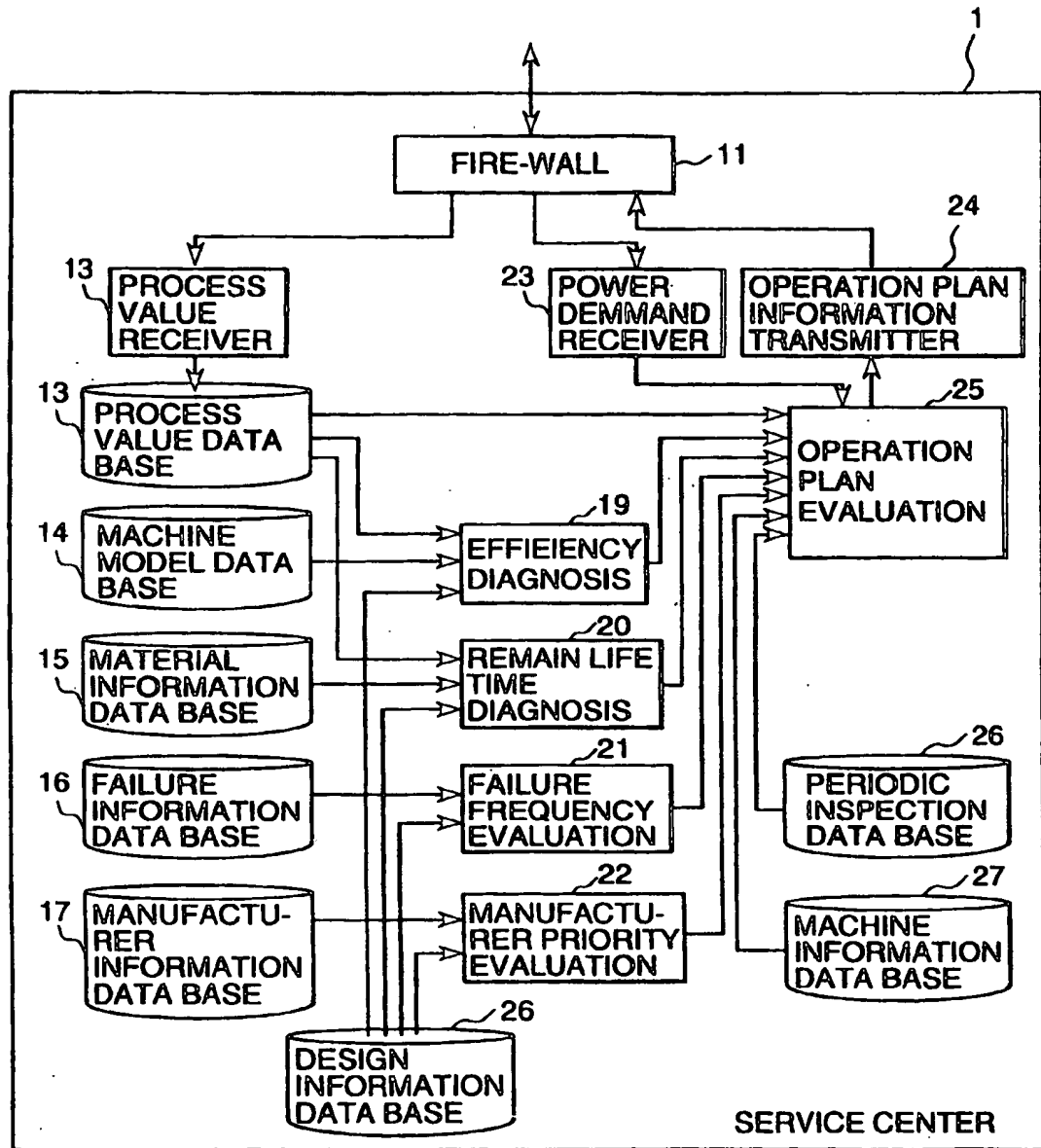


FIG. 4

PROCESS VALUE DATA BASE

POWER PLANT	UNIT	PROCESS No.	PROCESS VALUE			
		TIME	12:00:20	12:00:19	12:00:18	...
POWER PLANT A	UNIT 1	PID001	100.0	99.0	99.5	
		PID002	120.0	119.0	118.0	
		PID003	100.0	100.0	100.0	
		⋮				
	UNIT 2					

FIG. 5

DESIGN INFORMATION DATA BASE

POWER PLANT	UNIT	MACHINE (MANUFACTURER/TYPE)	PARTS (MANUFACTURER/TYPE)
POWER PLANT A	UNIT 1	GAS TURBINE(A Co./GT001)	COMBUSTOR(B Co./CB003)
			TURBINE(A Co./TB001)
			COMPRESSOR(A Co./CP001)
		GENERATOR(B Co./GN005)	
			⋮

FIG. 6

PART	MANUFACTURER/ TYPE	MACHINE MODEL	INPUT OUTPUT SPECIFICATION
COMPRESSOR	A Co./CP001	MODEL CP001	INPUT:PID010,PID015, .. OUTPUT:PID030,PID035, ..
	B Co./CP001	MODEL CP003	
	⋮		
TURBINE	A Co./TB001		

FIG. 7

MACHINE MODEL

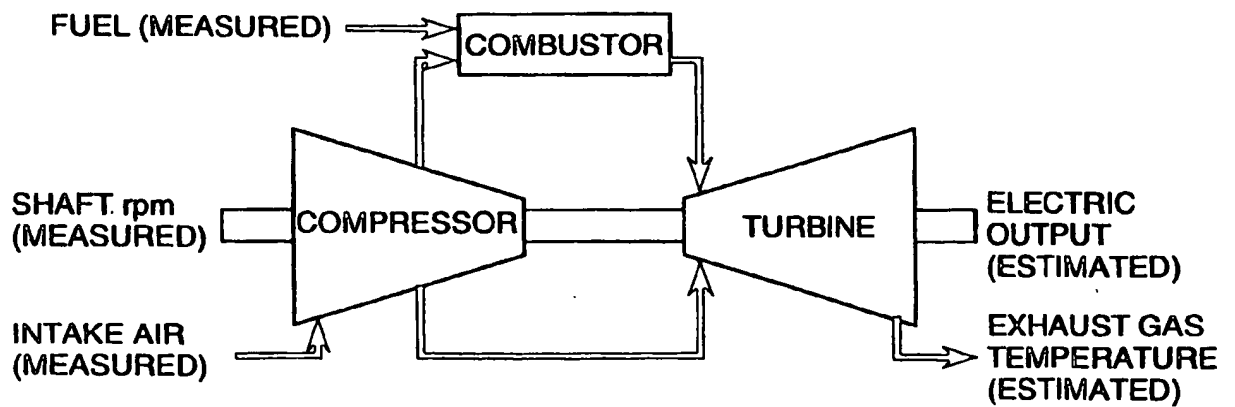


FIG. 8

PERFORMANCE DETERIORATION JUDGEMENT
MAKING USE OF MACHINE MODEL

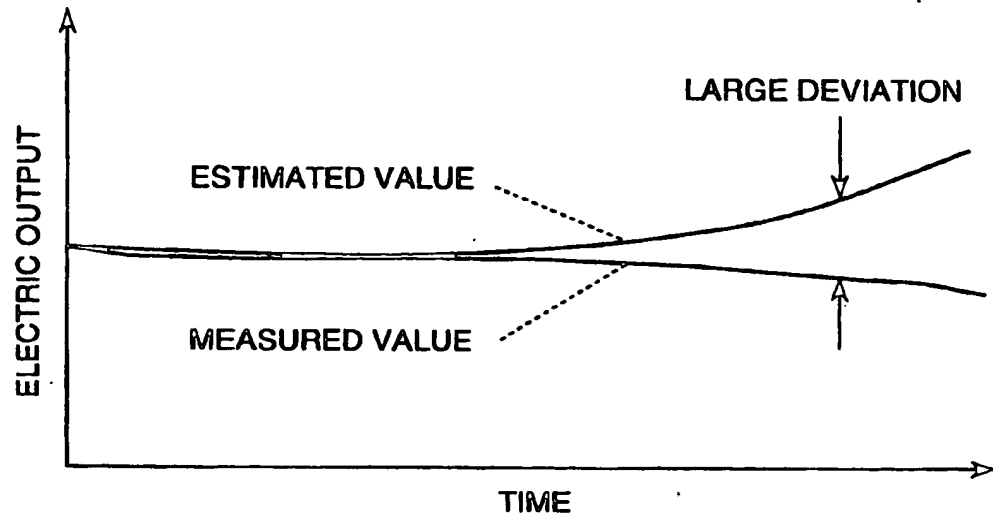


FIG. 9

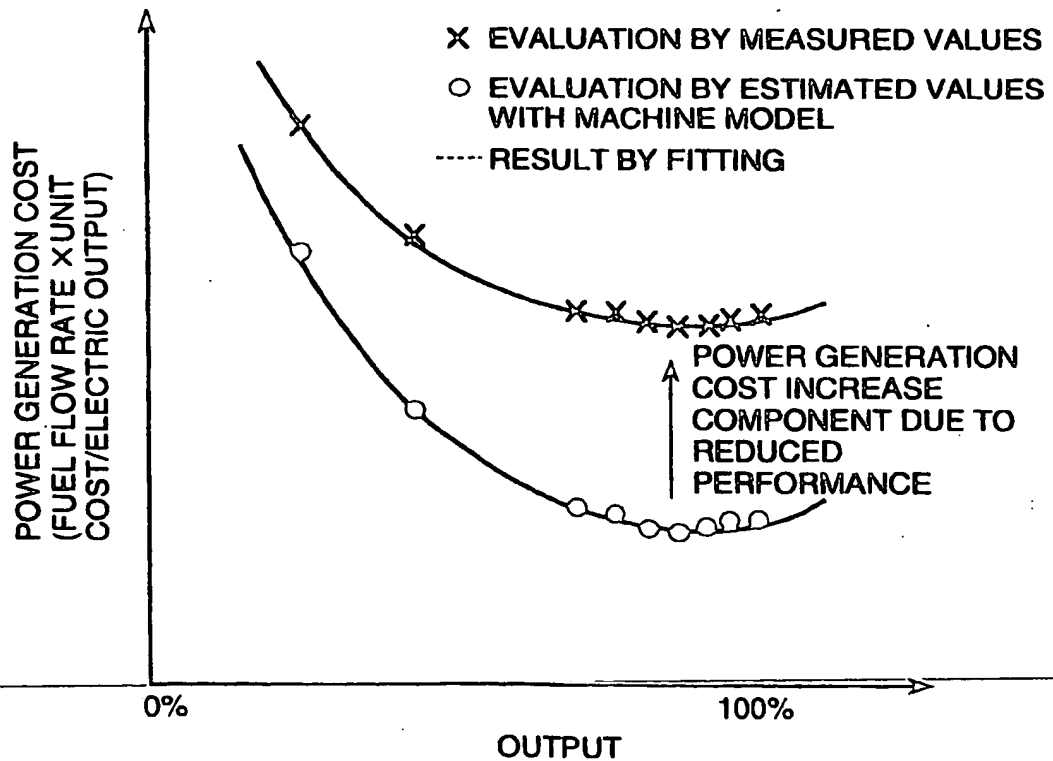


FIG. 10

PERIODIC INSPECTION INFORMATION DATA BASE

		1999												2000											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
A PLANT																									
	UNIT 1			<input type="checkbox"/>												<input type="checkbox"/>									
	UNIT 2									<input type="checkbox"/>											<input type="checkbox"/>				
B PLANT																									
	UNIT 1				<input type="checkbox"/>												<input type="checkbox"/>								
	UNIT 2										<input type="checkbox"/>												<input type="checkbox"/>		
⋮																									

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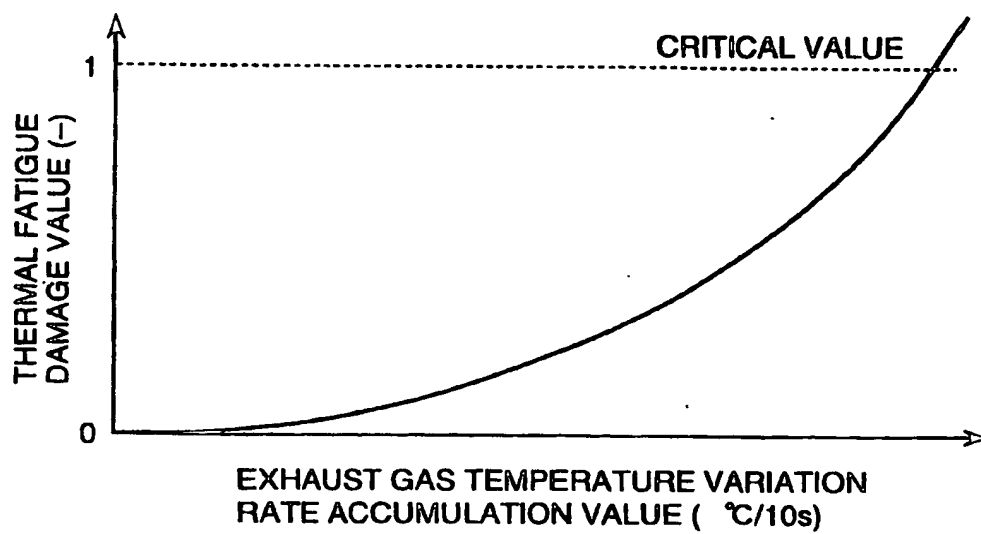
FIG. 11

MACHINE INFORMATION DATA BASE

MACHINE/ PARTS	MANUFACTURER/ TYPE	PURCHASED PRICE	DAYS FOR INSTALLATION
GAS TURBINE	A Co./GT001	20000M	10 DAY
	B Co./GT003	16000M	14 DAY
	C Co./GT001	24000M	8 DAY
	⋮	⋮	⋮
⋮	⋮	⋮	⋮

FIG. 12

STRUCTURE OF MATERIAL INFORMATION DATA BASE
THERMAL FATIGUE DAMAGE DATA [GAS TURBINE (GT001)]



CREEP DAMAGE DATA [GAS TURBINE (GT001)]

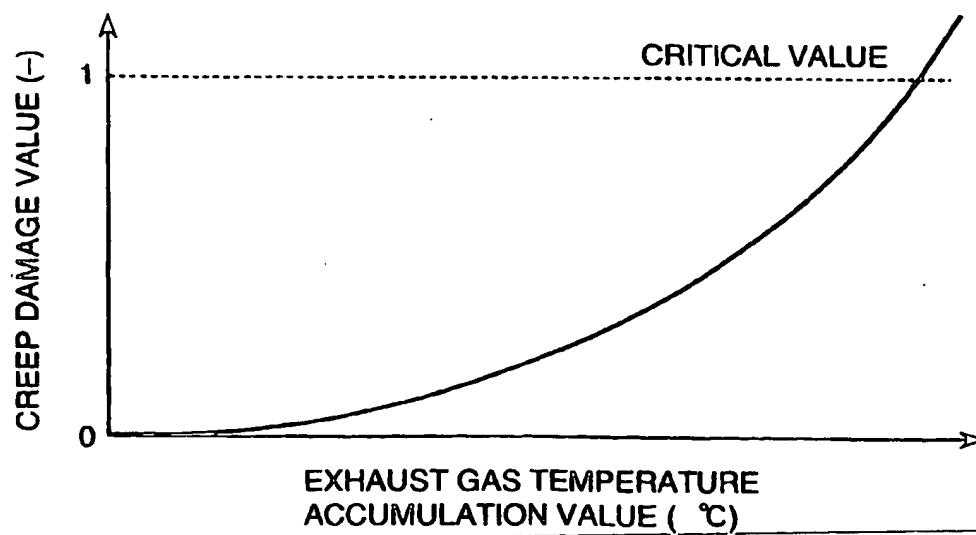


FIG. 13

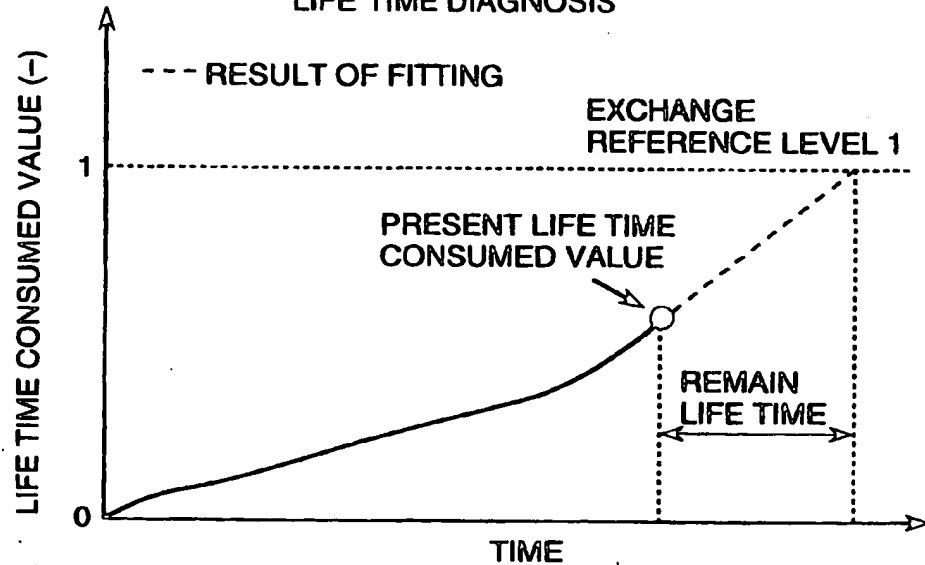
ANALYSIS EXAMPLE OF REMAIN
LIFE TIME DIAGNOSIS

FIG. 15

FAILURE INFORMATION DATA BASE

DATE OF FAILURE OCCURRED	PLANT	UNIT	PARTS (MANUFACTURER/TYPE)	DATE OF PREVIOUS REPAIR, EXCHANGE	CAUSE OF FAILURE
2000.9.10	PLANT A	UNIT 1	VALVE (A Co./VL0010)	1992.3.20	PACKING DETERIORATION
1998.6.5	PLANT B	UNIT 2	PUMP (B Co./PU032)	1990.4.1	COUPLING BREAKAGE
⋮	⋮	⋮	⋮	⋮	⋮

FIG. 16

MANUFACTURER INFORMATION DATA BASE

MANUFACTURER	RELIABILITY	MAINTENANCE CAPACITY
A Co.	A	A
B Co.	A	B
C Co.	B	B
	⋮	⋮

FIG. 14

FLOW OF OPERATION AND MAINTENANCE PLANNING
MAKING USE OF REMAIN LIFE TIME DIAGNOSIS RESULT

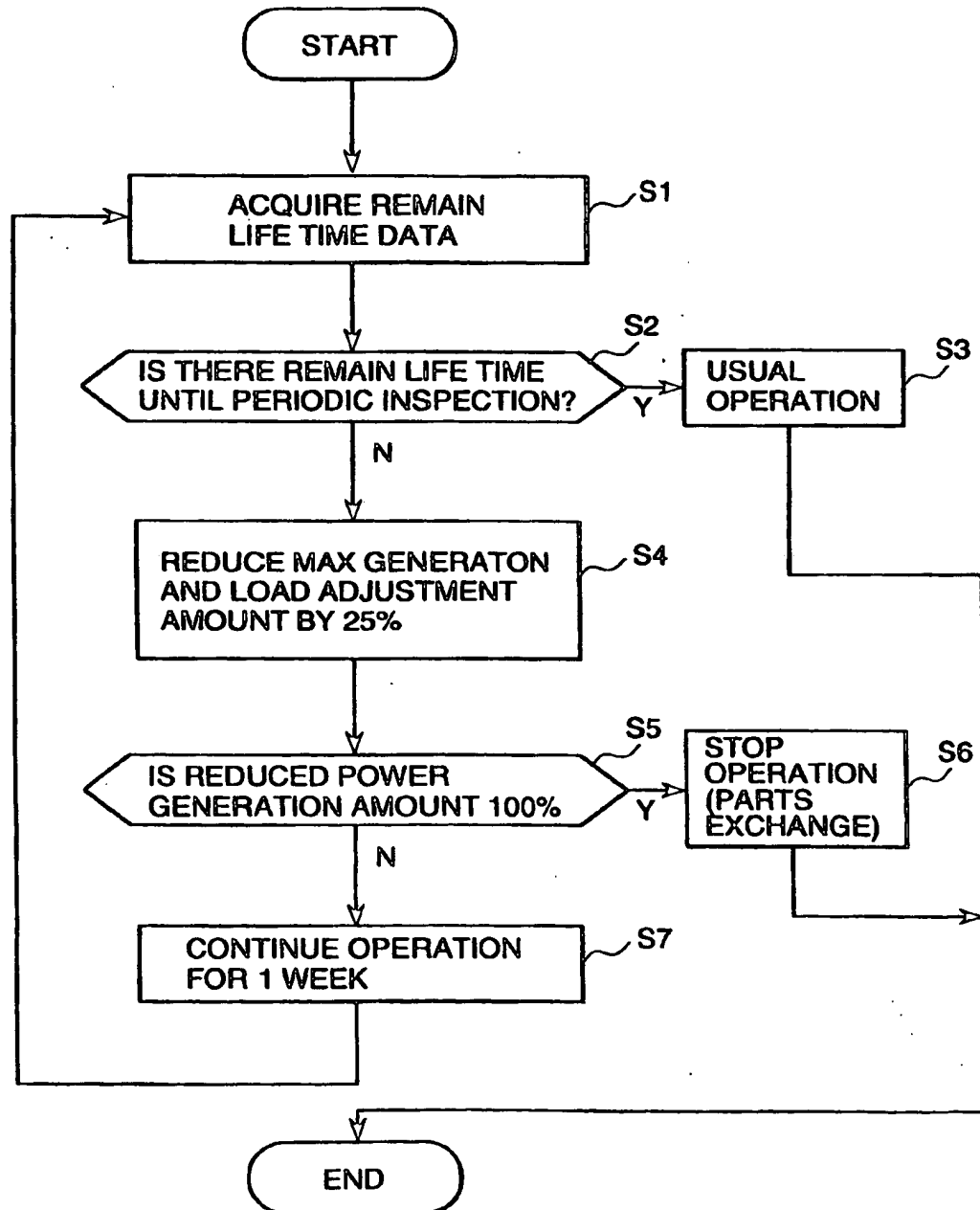


FIG. 17

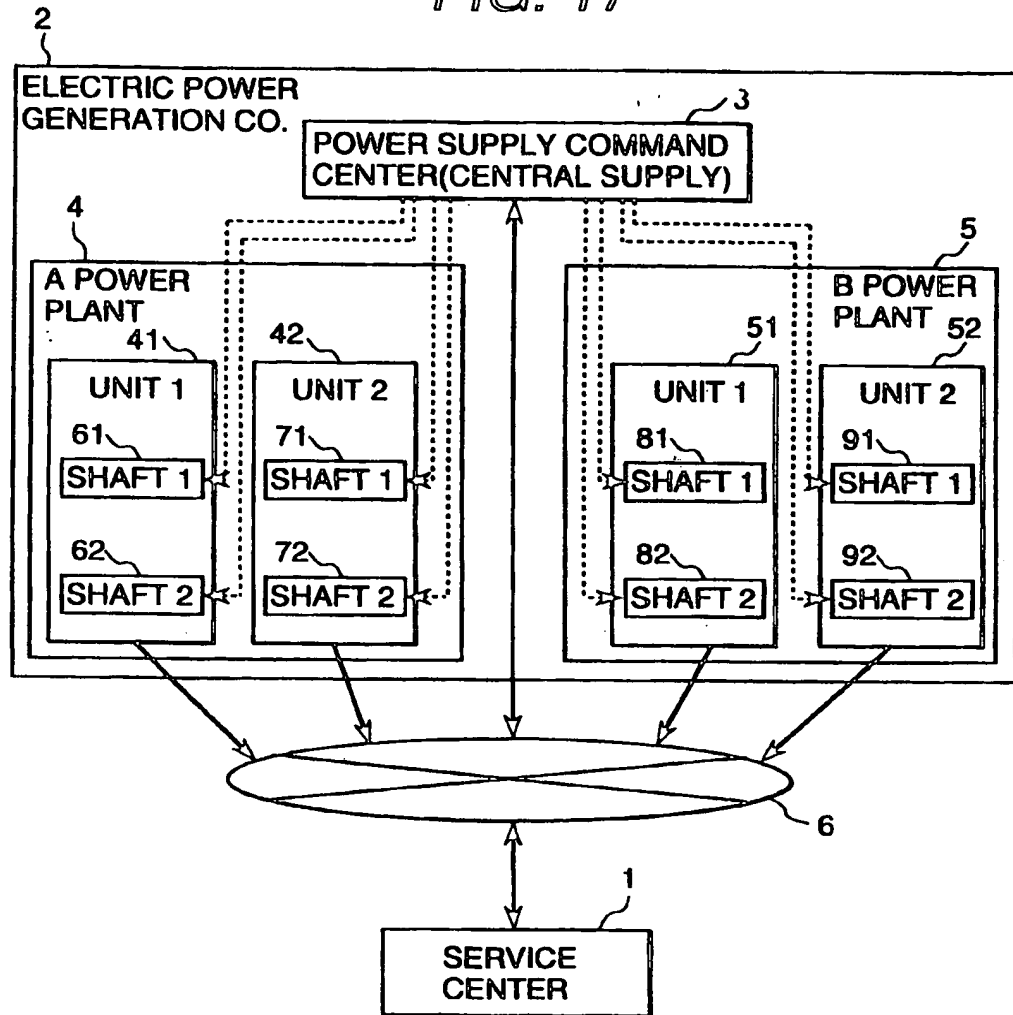


FIG. 18

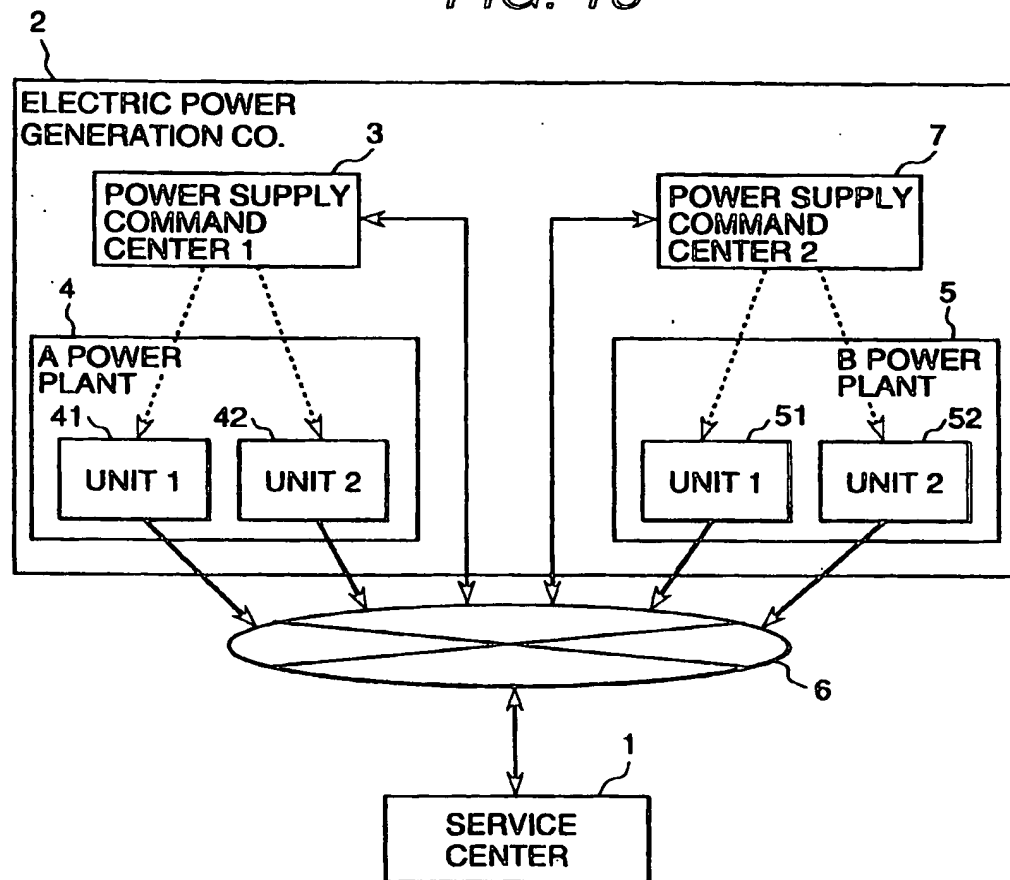


FIG. 19

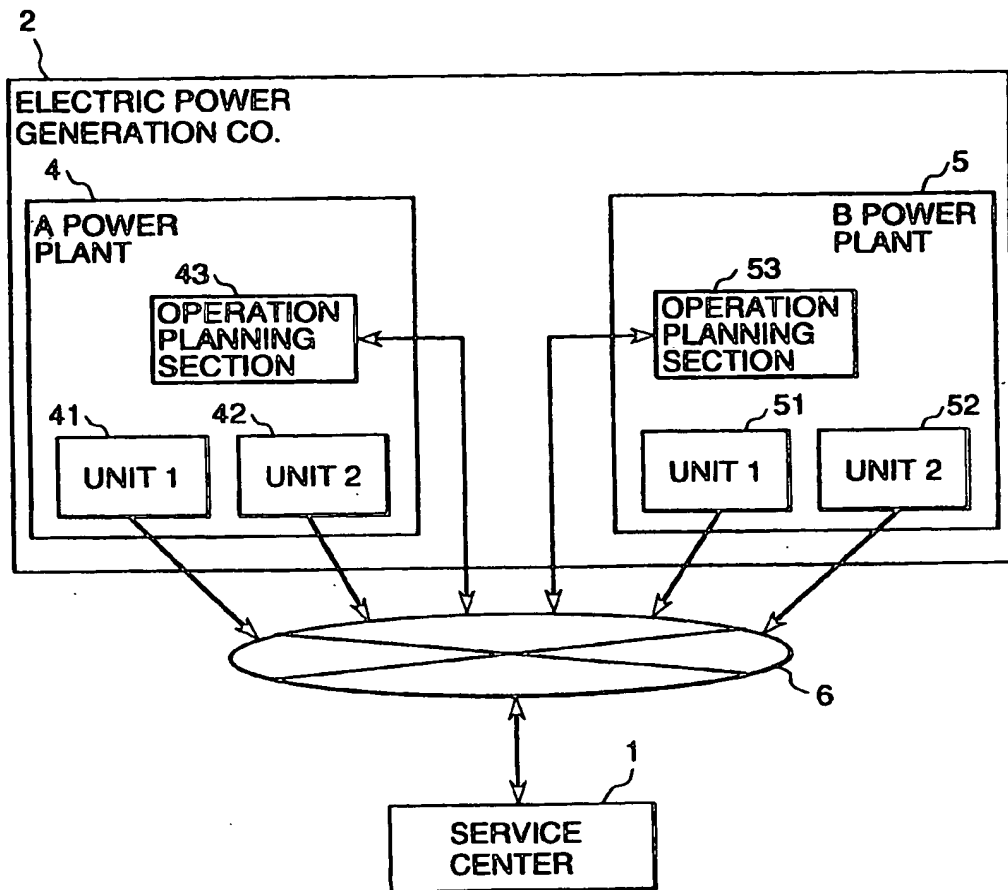


FIG. 20

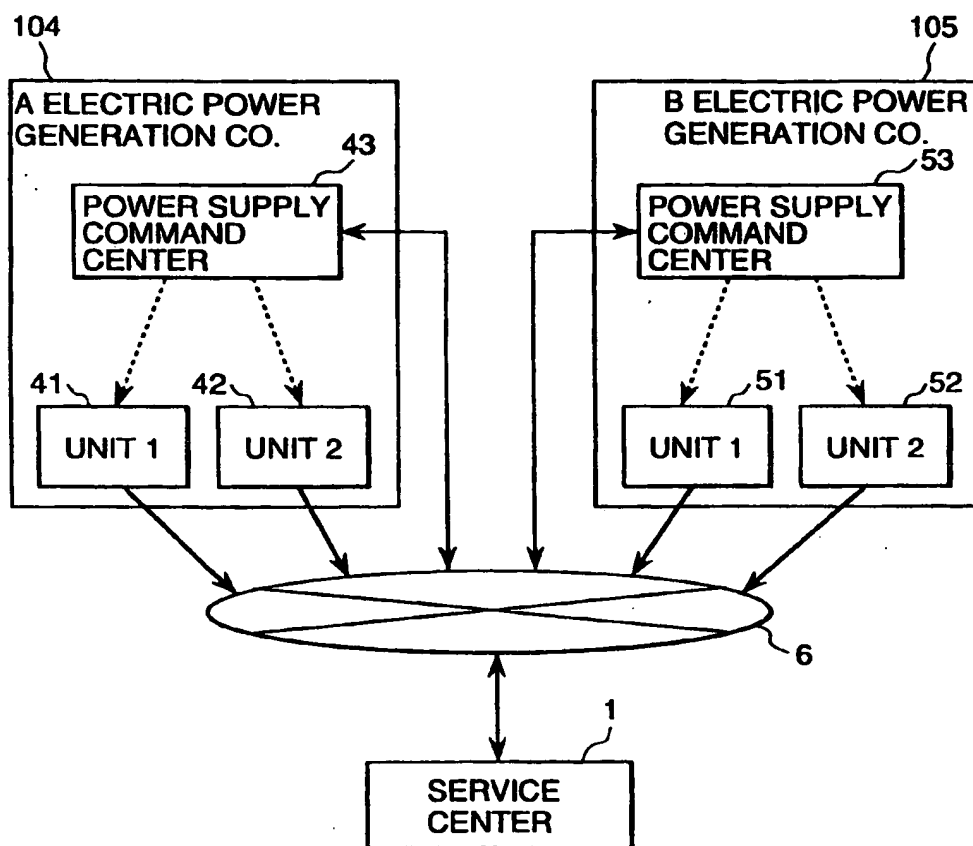


FIG. 21

PROCESS VALUE DATA BASE

POWER GENERATION Co.	UNIT	PROCESS No.	PROCESS VALUE			
		TIME	12:00:20	12:00:19	12:00:18	...
A POWER GENERATION Co.	UNIT 1	PID001	100.0	99.0	99.5	
		PID002	120.0	119.0	118.0	
		PID003	100.0	100.0	100.0	
		⋮				
	UNIT 2					

FIG. 22

DESIGN INFORMATION DATA BASE

POWER GENERATION Co.	UNIT	MACHINE (MANUFACTURER/TYPE)	PARTS (MANUFACTURER/TYPE)
A POWER GENERATION Co.	UNIT 1	GAS TURBINE(A Co./GT001)	COMBUSTOR(B Co./CB003)
			TURBINE(A Co./TB001)
			COMPRESSOR(A Co./CP001)
		GENERATOR(B Co./GN005)	
			⋮

FIG. 23

PERIODIC INSPECTION INFORMATION DATA BASE

		1999												2000											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
A POWER GENERATION Co.																									
	UNIT 1				<input type="checkbox"/>												<input type="checkbox"/>								
	UNIT 2									<input type="checkbox"/>												<input type="checkbox"/>			
B POWER GENERATION Co.																									
	UNIT 1					<input type="checkbox"/>												<input type="checkbox"/>							
	UNIT 2										<input type="checkbox"/>												<input type="checkbox"/>		
⋮																									

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FIG. 24

FAILURE INFORMATION DATA BASE

DATE OF FAILURE OCCURRED	POWER GENERATION Co.	UNIT	PARTS (MANUFACTURER/TYPE)	DATE OF PREVIOUS REPAIR, EXCHANGE	CAUSE OF FAILURE
2000.9.10	A POWER GENERATION Co.	UNIT 1	VALVE (A Co./VL0010)	1992.3.20	PACKING DATERIORATION
1998.6.5	B POWER GENERATION Co.	UNIT 2	PUMP (B Co./PU032)	1990.4.1	COUPLING BREAKAGE
⋮	⋮	⋮	⋮	⋮	⋮

FIG. 25

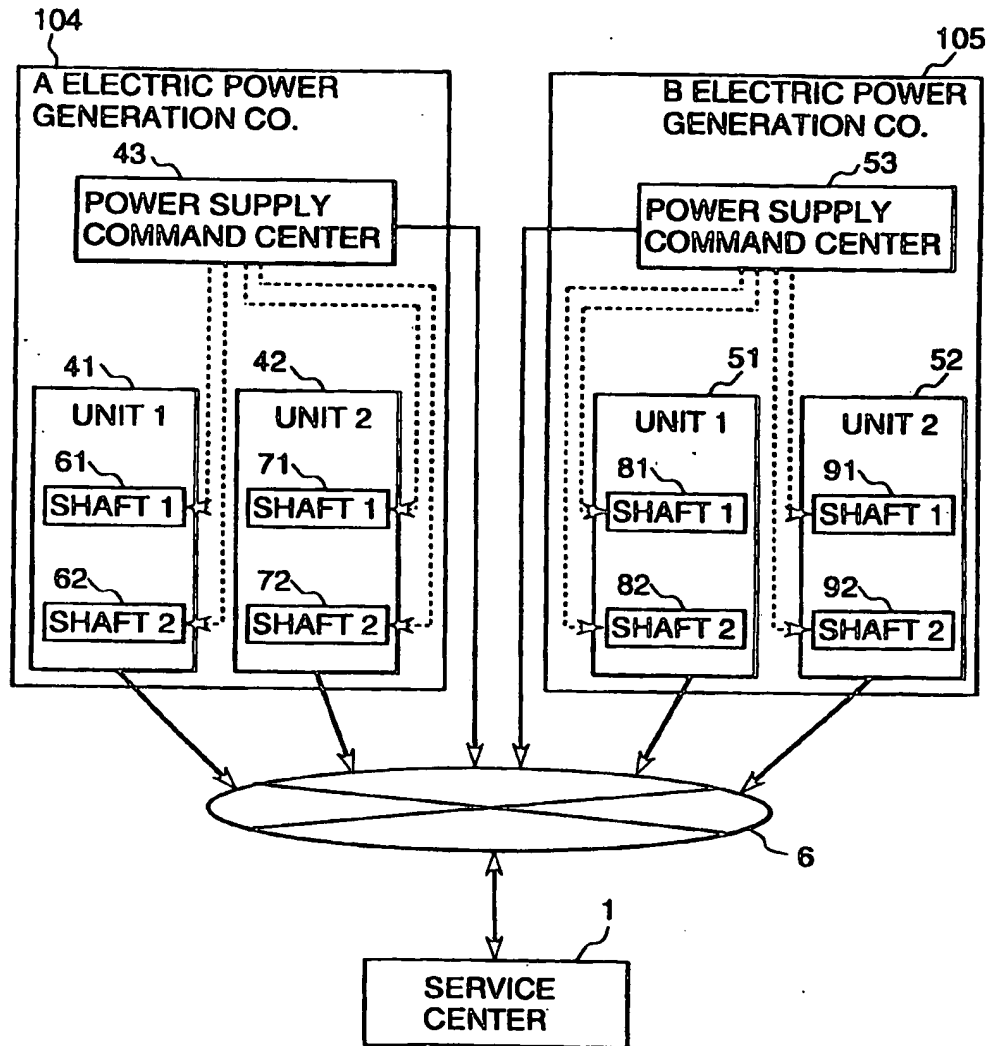


FIG. 26

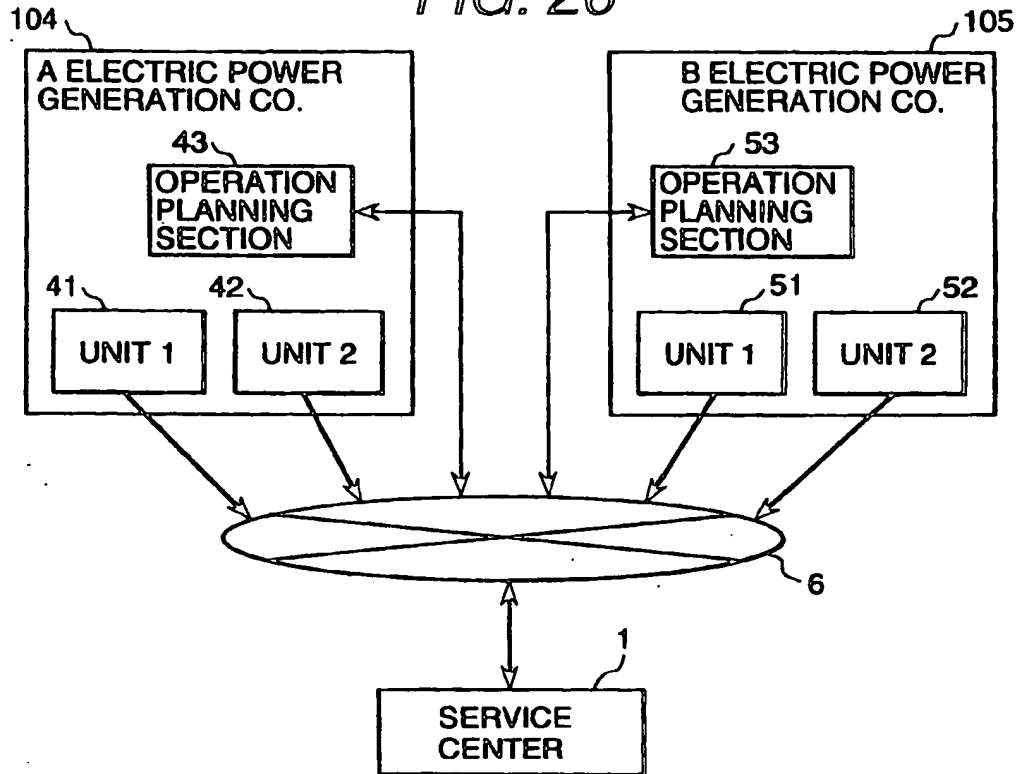


FIG. 27(a)

FIG. 27(b)

POWER GENERATION
AMOUNT DIVISION

